

markings. Around Darmstadt, August." "No. 187. *Hessii*, Boisd.; *neurica*, Hb. 659-61.—Much too robust, outline of the forewings defective. Fuscoferruginea, stigate reniformi versus limbum et marginem interiorem albocincto. Differs from *neurica* in appearance only by the reddish-brown colour of the forewings. The central spot extending more towards the outer margin, its form seems more like the usual reniform, the three dots, however, on its outer border are missing. Darmstadt."

(To be continued.)

Myrmecophilous notes for 1906 (with two plates).

By H. St. J. K. DONISTHORPE, F.Z.S., F.E.S.

(Concluded from vol. xviii., p. 319.)

DIPTERA.—*Ceratopogon myrmecophilus*, Egger.—I have this year bred several ♂s and ♀s of this rare species out of my observation nest of *Formica rufa* from Weybridge. Mr. Morley tells me he has taken it in Suffolk. It will be remembered that I took it for the first time in Britain a few years ago at Oxshott.

Phyllomyza, n. sp.?—All the specimens recorded from ants' nests heretofore as *Phyllomyza securicornis*, Fln., are not that species, Mr. Collin tells me, but include two species new to science, one found with *Formica rufa*, and the other with *Lasius fuliginosus*. The former I bred in some numbers from my *F. rufa* nest from Weybridge this year, and have taken it before at Oxshott. The latter I have bred in numbers from my *L. fuliginosus* nest from Wellington College, and have taken it before at Oxshott and Birkdale sandhills. Mr. Collin will shortly describe and figure them.

Scatopse injumata, Hal.—I bred this species this year from my Weybridge *F. rufa* nest.

Scatopse transversalis, n. var.—I bred this species also in numbers from my Wellington College nest of *Lasius fuliginosus*. Last year I took it with the same ant on the Birkdale sandhills.

Phora inaequalis, Wood.—I took this species in plenty with *Lasius fuliginosus*, at Wellington College. It occurred in numbers in the actual nest of the ant (which contained the ants' larvæ), built in the inside of a post, and must have bred there.

Phora pulicaria, Fald.—I bred this species from my Weybridge *F. rufa* nest. Wasmann records it from the same ant's nest.

Limosina curtiventris, Stnh.—I bred this little fly in numbers from my Wellington College *L. fuliginosus* nest. This nest, from which I have taken so many species, consists of several handfuls of *débris* out of the heart of a nest in the root of a birch-tree, full of ants and ant larvæ. As I noticed it also contained numbers of dipterous larvæ, I brought it home and put it into a large glass bowl. I also bred from it several species of *Sciara* in some numbers.

Trineura aterrima, Fab.—I took this species with *L. fuliginosus*, at Wellington College.

BRACONIDÆ.—*Sp.* 1?—I took two specimens of a handsome black species, with yellow legs and dusky wings, at Weybridge, in July. I saw several hovering over an anthill (*F. rufa*). They were hovering in the air like birds of prey, and every now and then swooping at the

ants, occasionally they hovered so close to the ants, that the latter tried to reach up to them. *Sp.* 2?—I took a specimen in a nest of *Formica rufibarbis* var. *fusco-rufibarbis*, at Whitsand Bay, in September.

CHALCIDIDÆ.—*Spalangia*, sp. ?—I took a specimen of a species of this genus in a nest of *Lasius fuliginosus*, at Wellington College, and have since bred it in numbers from my nest of the same ant, indeed, it is still emerging (November 28th). It is a jet-black species like its host. I have taken, and bred, various other species of *Chalcididæ* with ants, but am unable to get even the names of the genera. They no doubt occur as parasites on the ants themselves, and others as parasites on some other inhabitant of the nest.

COCCIDÆ.—Mr. Newstead, has kindly named the *Coccidæ* I have taken with ants this year. Two species turn out to be new to science. Mr. Newstead describes them as follows:—

RIPERSIA DONISTHORPEI, n. sp. (pl. i., figs. 1-2).—*Female*.—Antenna stout (fig. 1), relatively long; of seven segments, the last much the longest, but not wider than the 6th; all the segments have several rather long slender hairs, in addition to these the 6th segment has a long slender spine near the apex on the inner lateral margin, and there are two similar spines on the 7th, and possibly three others, but only the basal attachments are left in the specimen. Eyes hemispherical, placed on a line just behind the insertion of the antennæ. Mentum monomerous; loop of rostral filaments short, about twice the length of the mentum. Legs (fig. 2) relatively long and stout; ventral hair to posterior trochanter a little more than *three-fourths* the length of the femur, very slender; digitules to tarsi absent; claws short. Anal orifice with eight long hairs. Anal lobes indicated by a single stout hair and three to four short spines. Stigmata large. Dermis (fig. 1) with a few scattered hairs; tubular spinnerets short, orifice circular, small, they are much more numerous at the margins, and especially so at the posterior extremity, but in the region of the anal orifice, dorsally, they are almost entirely replaced by much larger, and apparently non-tubular, spinnerets. Length, 2·50mm.; width, 1mm. (Newstead).

The distinctive features of this species are the unusually elongated form, the number of hairs to an anal orifice, and the great length of the ventral hair to the trochanter. *Habitat*.—In a nest of *Ponera contracta*, at Charing, Kent.

RIPERSIA FORMICARII, n. sp. (pl. i., fig. 3).—*Female adult*.—Very short, ovate, narrowed in front, widely rounded behind; highly convex above, flat beneath; segmentation of the dorsum distinct; cephalo-thoracic margin with five constrictions; abdominal extremity with a central emargination, and one bilateral, deep, indentation. Colour, in alcohol, dull purple-brown, slightly mealy. Antenna (fig. 3) of six segments, 1st, 2nd, and 3rd almost equal in length, each about two-thirds the length of the 6th; 4th and 5th shortest; 6th longest and slightly wider than the 4th, with a strongly-curved spinose hair near the tip. Eyes small, hemispherical, placed considerably behind the insertion of the antennæ. Legs rather long, slender; anterior tarsus a little shorter than the tibia. Anal lobes obsolete. Anal orifice with six hairs. Dermal spinnerets very minute, numerous. Mentum bimerous; rostral loop a little longer than the mentum. Length, 1·75mm.; width, 1·50mm. Larva (matured) elongate. Antenna much swollen at the apex; 1st-5th segments short, almost equal in length; apical segments longest, a little longer than 3rd, 4th, and 5th together. Legs long, stout; digitules to claws and tarsi simple. Anal lobes small but distinct, each with one long hair and two or three very short slender ones (Newstead).

A single female and fully matured larva were found associated with *Lasius flavus*, at Charing, Kent. Easily recognised by its short rotund form and the character of the antennæ.

Ripersia tomlinii, Newstead.—Two immature females, associated with *Lasius flavus* and *L. niger*, Isle of Wight. These were two of a number of specimens I took with these species of ants at Blackgang,

Isle of Wight, in October last. Mr. Forsyth has also taken it again at Weymouth, where I first discovered it in Britain.

APHIDÆ.—*Forda formicaria*, Heyd.—I took this species in a nest of *Lasius niger*, at Harlech, last June. Hardy took it in *Myrmica* nests in Berwickshire, and Lord Avebury with *L. flavus* at Beckenham. Buckton mentions that it is a common companion of ants. Monsieur H. Schouteden records it with *Myrmica rugulosa*, Nyl., *Tetramorium caespitum*, *Lasius flavus*, and *L. niger* in Belgium. Father Wasmann with most small ants, especially *L. flavus*.

Trama troglodytes, Heyd.—I took a specimen of this "plant-louse" in the same nest as the above. In ants' nests at Beckenham (Lord Avebury); Grampian Hills (Hardy); common with *Myrmica rubra* and *Lasius fuliginosus* in Berwickshire (Hardy); with *Myrmica rubra*, *M. rugulosa*, and *Lasius niger* in Belgium (Schouteden).

Tetraneum (Tychaea) setariae, Pass.—I have taken this species with *Formica rufibarbis* var. *fuscov-rufibarbis* at Whitsand Bay, and *Lasius flavus* at Ashstead. In ant-hills at Beckenham (Buckton); in nests of *Tetramorium caespitum* in Bohemia (Wasmann). I took it in some numbers at Ashstead by cutting open the turf mounds of the ant.

Aphis plantaginis, Schrk.—I took this *Aphis* in June, 1902, at Rosbeigh, Co. Kerry, on plants in a nest of *Lasius niger*. Mons. Schouteden, who has taken it with *Lasius flavus* in Belgium,* points out that the ants carry its eggs into their galleries to pass the winter, and when they hatch, replace them on the roots, or the shoots, of *Chrysanthemum*, *Bellis*, *Plantago*, *Achillea*, etc. I am much indebted to Mons. H. Schouteden for having kindly identified the above species for me.

ACARINA.—*Glyphopsis coccinea*, Mic.—I took this species in some numbers in a nest of *Formica fusca* at Barmouth, last June.

Glyphopsis bostocki, Mic.—Mr. Morley took a specimen of this species in a nest of *Lasius flavus* in his garden at Monk's Soham.

Glyphopsis formicariae, Lubbock.—I took this mite in a nest of *Lasius flavus* at Harlech, last June.

Leolaps cuneifer, Mic.—I took this species new to Britain in numbers with *Lasius fuliginosus* at Wellington College. Father Wasmann has taken it with the same ant in Holland, and Mr. Michael with *Camponotus* in the Tyrol.

Leolaps myrmecophilus, Berl.—I took this species with *Formica fusca* at Barmouth, with *F. sanguinea* at Woking, and specimens taken with the former host at Niton, Isle of Wight, Mr. N. D. F. Pearce thinks are also this species.

Uropoda ricasoliana, Berl.—Mr. Pearce thinks that a specimen taken by me with *Lasius fuliginosus* at Wellington College, is this species. It was taken with the same ant in Holland by Father Wasmann.

Antennophorus grandis, Berl.—I took a fair number of an *Antennophorus* on the ants in a nest of *Lasius fuliginosus* at Wellington College, which Father Wasmann suggests are this species, in which case it is new to Britain. Our other species, *Antennophorus uhmanni*, Hall, has only been taken in Britain at Land's End, by Mr. Michael, in ants' nests, the ants would not be *L. fuliginosus*. Father Wasmann has

* Les Aphides Radicicoles de Belgique et les Fourmis.

taken *uhlmanni* with *L. flavus* and *L. niger* in Holland. These large mites are generally found on the underside of the head of the ant. I have found two specimens on one ant. Mr. A. D. Michael has some of my specimens, as also other species, but he has not yet had time to work them out. My best thanks are due to him, as also to Mr. N. D. F. Pearce, for the names of the above.

CRUSTACEA.—Although *Platyarthrus hoffmanseggii* appears to be our only true ants' nest species, the following records are of interest:—

Porcellio scaber, Latr.—I took specimens of a fine red variety with *Formica sanguinea* at Woking.

Porcellio ratzeburgi, Brandt.—Taken in numbers with *Formica rufa* at Corbridge, in Northumberland, by Mr. R. S. Bagnall, new to Britain.

Armadillium opacum, Koch.—I took several specimens of this new species, to Britain, in the heart of a nest of *Lasius fuliginosus* at Wellington College. I am indebted to Mr. Bagnall for the names of these "wood-lice."

EXPLANATION OF PLATE XV (VOL. XVIII).

The parts of the ants lettered are as follows:—

- A. Pronotum. B. Mesonotum. C. Scutellum. D. Post-scutellum.
E. Propodeum.

EXPLANATION OF PLATE I (VOL. XIX).

FIGS. 1-2.—*Ripersia donisthorpei*, n. sp. $\times 250$.

sp. = spinneret, *spl.* = spine, *e.* = eye.

FIG. 3.—*Ripersia formicarii*, n. sp. $\times 250$.

Gonatopus sociabilis, n.sp., and a table of the British species.

By PROF. DR. T. T. KIEFFER (translated with notes by
HORACE DONISTHORPE).

♀. Black; the first two joints of the antennæ, the head, except above, which is brown-black, the tarsi and the sloping part of the large abdominal segment, of a red-yellow colour; club of anterior femora black-brown, the extremity of the four other femora, and of the four posterior tarsi, a little obscured. Vertex depressed and slightly concave, with a slight median carina. Antennæ reaching the extremity of the thorax; scape bent, large, half as long again as the second joint; second joint twice as long as broad; third joint slender, equal to the first and second together; fourth gradually thickened; fifth to the tenth equally large, fifth hardly twice as long as broad; ninth half as long as broad. Thorax bright and smooth; first node with a transverse impression before the middle, anterior part shorter than the posterior and nearly smooth; posterior part raised and elongate, narrowing between the two nodes a little shorter than broad; second node elongate, with fairly abundant upstanding hair, having in front, and at the sides, an impression or suture well marked; the sloping part transversely striate. The thin part of the posterior femora longer than the thickened part. Anterior metatarsus equal to the fourth joint, twice as long as the second and third together; the fifth a little longer than the third. Interior joint of the pincers strongly bent before the extremity, which bears 13-15 lamelles (little plates), of which one on one side and three on the other are very long; the bent part without plates; the rest, underneath, bears a row of obtuse plates, touching each other, and